

RAMAN ASSISTED EDFA SYSTEM AND METHOD

CROSS REFERENCE TO RELATED APPLICATIONS

5 [0001] The present application claims the benefit of
U.S. Provisional Appl. Ser. No. 60/249,346 filed
November 16, 2000, entitled "Amplifier Design for Raman
Assisted EDFA Systems," the teachings of which are
herein incorporated by reference, and the present
application herein incorporates by reference the
10 teachings of commonly assigned U.S. Provisional Appl.
Ser. No. 60/249,347, also filed November 16, 2000,
entitled "Terrestrial System Design," and its related
U.S. Patent Appl. Ser. No. X,XXX,XXX, being filed
concurrently with the present patent application.

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FIELD OF THE INVENTION

[0002] The present invention relates to optical
telecommunications systems. More particularly, the
present invention relates to Raman assisted EDFA
20 amplification in long haul and ultra-long haul optical
telecommunications systems.

BACKGROUND OF THE INVENTION

[0003] The maximum distances optical signals can
25 travel through optical fiber before degrading to the
point of being undetectable by a receiver is limited
by, among other things, power loss or attenuation
caused by dispersion, scattering, absorption and
bending. Optical amplifiers are employed to reduce or
30 minimize power loss, especially in long haul systems,
i.e., about 200 to 600 km, and ultra-long haul (ULH)
systems, i.e., greater than about 2,000 km.

[0004] Transmission systems may include a series of
optical amplifiers periodically spaced along the fiber

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